TECHNICAL FIELD VISIT SUMMARY – FISHER MARKING GUIDELINES
Dinkey Collaborative
July 16, 2012
Dinkey Landscape Restoration Project, Sierra National Forest

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1. Action Items

- **TECHNICAL MEMBERS** review the Green Diamond Guidelines and Kings River version of platform descriptions.
- **REBECCA GREEN** noted that a handbook with photos, surrounding conditions, and microsite descriptions was being created and could be shared.
- **SNF STAFF** in Eastfork it was possible to flag clumps, and overlay this data with Mr. Thompson's fisher use data, as well as LiDAR data.
- **SNF STAFF** in Soaproot to cross-check the marking guidelines, their interpretation, and actual fisher data as an exercise to improve the guidelines and marking crews.

2. Welcome and Orientation

Mr. Craig Thompson, Pacific Southwest Research Station, welcomed all participants to the field visit, noting that the group would cover a lot of ground and focus on refining the fisher marking guidelines developed for Dinkey North and South, before the Collaborative formed. Mr. Thompson oriented the group to the area before departing for the field, noting there was little fisher use before treatment. Annual photos of the area and the den/rest sites did not exist. It might be possible to have additional LiDAR information developed. He reviewed the associated maps, noting that the detections indicated were cumulative 2007-2012; a female fisher (F108) had used the area (U371) but never denned, and now had died.

Mr. Mark Smith reviewed the marking guidelines to make sure they were fresh in people's minds, as the group would return to these throughout the day.

Ms. Sue Britting noted that in practice the treatment led to the Environmental Analysis, which led to a prescription sheet/stand record cards, and then was mapped. When considering guideline improvement, it was important to note that clear communication was important at each step.

Mr. Zach Tane explained the supplemental stand-level tables, noting that the before/after stand-level data was a modeled average only, and should be interpreted carefully.

3. Dinkey North: Unit 371

Mr. Thompson noted the upper portion was not treated, and the lower portion has similar habitat to where the group was standing. Unit 371 is in a Spotted Owl Protected Activity Center (PAC), so the diameter at breast height limit for cutting trees is 18", and the result looks similar to surface and ladder fuel treatments. The same applies to Unit 386, which had a 16" or 18" limit.

- Ms. Rebecca Green noted that there was a rest tree that did not have a large platform but did have a deformity.
- Mr. Craig Thomas noted the **rock outcropping, hardwoods, conifer snags, and immediate water that created a cooler microclimate**.
    - Ms. Green confirmed that drainages were commonly used, especially when hotter, and constituted good travel routes. As a caveat, scat data is increasingly available, but it's difficult to have sequential telemetry and actually track exactly what the fisher use; here it was at least clear they were using the drainage.
    - Mr. Smith noted that drainages in canyons are landscape linkages.
- Ms. Britting noted that there was not much downed wood or logs. **Complicated lower structure enhancements** was something to consider retaining rather than removing in post-treatment operations.
- Ms. Tiffany Wade noted that area would be viewed as low-moderate habitat from a silvicultural perspective, and the tree would be kept as a wildlife tree. Mr. Smith suggested it might only be designated as low, since a moderate rating requires a clump (typically 3 to 5 30" trees with touching crowns) and 240' basal area.
    - Mr. Hanson suggested **considering a broader definition of a clump** to have greater spatial area, non-touching crowns, and not a requirement for all trees to be >30"dbh.
    - Mr. Smith noted that **touching crowns were chosen because fisher moved from branch to branch.** Mr. Thompson affirmed that a tight clump with touching canopy is important for high quality sites.
    - Ms. Britting noted she would classify the area as moderate and felt the basal area was met.
- Ms. Green suggested that while the immediate area was moderate, overall the area was better than surrounding areas. **Therefore in planning treatments it would be important to consider the relative quality of a site to the surrounding area.** Ms. Wade noted that if the area were lower quality overall, her crews could focus on preserving the best areas available. Mr. Thompson echoed the importance of considering both the immediate site value and relative surrounding area value at the same time.

- Mr. Schroer asked whether the structure would be selected regardless of the quality of the surrounding area. Ms. Green replied that it would, partly because structure takes longer to develop, so leaving it now would be beneficial.
    - Mr. Thompson noted that fisher dens have more specific features for safety purposes; they have a different structural emphasis.
- Mr. Ballard asked whether there was an approximate number of high quality rest sites per acre. Mr. Thompson replied this is relative to what's available. Ms. Wade noted that this as typically assessed and considered at a stand level.
- Mr. Smith suggested that the distinction between low and moderate could be clarified.
    - Mr. Hanson noted that 240 basal area was a minimum, and having more was not necessarily undesirable.
    - Ms. Wade noted that smaller trees could be more carefully retained.
    - Mr. Thomas suggested low quality habitat should be selected if it had potential valuable for the future, and perhaps thinned accordingly. It would be important to not cross a tipping point.
- Ms. Britting asked what the term "rare" meant with regarding to **resting platforms, and that more attention was needed to the margin of such sites**. Ms. Green noted that structures in this area were more rare than other parts of the study area.
- Ms. Ballard noted that the area had a very high fire hazard, >60 tons per acre of fuel, it would burn hot because of residual fuels and debris, and have long retention period, so if burned would have to be done in the late fall or early winter.
- Mr. Thompson called out the importance of **logs that leaned against other trees**.
- Mr. Larry Duysen noted that hazardous snags would be removed during operations if they might fall upon a landing area. Ms. Ballard noted this applied to fireline construction as well.
    - Mr. Thompson asked about the placement of landings. Mr. Tane noted that this was site-specific.

4. Dinkey North: Sloping Area Downhill from First Stop

- Mr. Thompson asked **whether treating fuels hazards in the area would require consistent removal or could involve clumps**. Ms. Ballard noted that in open areas spacing and ground fuels are the focus.
- Ms. Green noted that **the structure in question was rapidly decaying**, and would be largely gone in 5-10 years (much had already changed), so again, **considering future desired habitat was critical**. The area was within a PAC so there was no reforestation. Historically there had been a skid trail.
- Mr. Hanson noted that downslope there was little subcanopy, and more big trees with a high crown.
- Mr. Thomas suggested the area was low quality, and that the uniformity was not good for fisher.
- Ms. Britting asked if the prescription would be different if the area were not in a PAC – whether the same thing would be done around a den buffer. White fir creates a high even canopy here. It was an open question what should be done in uphill, higher quality areas.

- **Mr. Thompson noted that the structure was valuable but the microclimate inhospitable. The area was dry and the debris of a different quality – everything was on the floor, there were no leaning trees, there was less moisture and decay, there were only small limbs and platforms, and few trailed big enough for cavities. The open understory was not positive, and it was too organized compared with the productive disarray seen elsewhere. The rocks, trees, shrubs, and small trees used to flush prey or provide cover were too small to hide in.**
    - Ms. Green echoed that the structure was key, while the drainage provided better habitat.
    - Mr. Thompson noted that the structure was important here, while the earlier site had a better microclimate. The area had been used when snow was present in March, as well as in May.
- Ms. Ballard noted that prescribed fire would focus on backing down naturally. There would be some girdling and pocket torching mortality. Mortality would be minimal in the lower area and not change the canopy.
- Mr. Kent Duysen asked **whether small group openings would be beneficial for regeneration and habitat.**
    - Mr. Schroer suggested that the old California Spotted Owl (CASPO) treatment had created a sterile understory rather than the desired heterogeneity and diversity, so pocket creation could be helpful.
    - Mr. Thompson noted that the CASPO treatments looked good on the computer because of the canopy, but in practice created low quality, homogeneous habitat. The lower areas should be thinned or otherwise opened to allow for more complex structures.
    - Mr. Hanson suggested that active snag creation for habitat and large downed logs would be beneficial, and that the treatment had reduced the habitat quality. Rest site locations should be provided ahead of time to they can be marked and protected. Mr. Hanson noted it would be valuable to review as a group areas that had not already been treated.
    - Ms. Ballard suggested that there was an opportunity to promote natural pine regeneration through creating openings.
    - Mr. Thomas asked what size openings were being considered, and that natural gaps should be used a reference point. Two acres was fairly large, while some gaps were ¼ acre. Some gaps might be big enough ecologically but not economically.
    - Ms. Britting cautioned that before creating openings as a prescription, aerial photos of other PACs should be reviewed – others are more open, and a gap might be only a fraction of a home range. Mr. Schroer agreed with the importance of a watershed and/or home range view to provide perspective.
- The group asked whether Mr. Thompson could describe **the criteria for a good resting platform, in terms of diameter, size, and other characteristic**.
    - **ACTION ITEM:** Mr. Smith suggested the group review the Green Diamond Guidelines and Kings River version of platform descriptions.
    - **ACTION ITEM**: Ms. Green noted that a handbook with photos, surrounding conditions, and microsite descriptions was being created and could be shared.

5. Dinkey South: Lunchtime Clump near McKinley Grove Road

Mr. Smith noted the clump appeared high quality, with 5 trees and touching crowns. At the same time the area was not steep and it wasn't clear whether water was within 300'.

- Mr. Hanson suggested that strict interpretation of the guidelines could be problematic. Mr. Hanson also suggested **not limiting the clump to the edge of the treeline**, noting the adjacent skid line. Similarly, it was not clear why trees within a clump would be removed in this case.
    - Mr. Smith noted that whether preferred or not, the treatment was consistent with the Proposed Action, which defined the extent of a clump as the edge of the tree limbs.
- Ms. Wade confirmed that the area would be viewed as high quality from a silvicultural perspective, and that the lack of water and steepness would not exclude it. Some trees had been removed from the original mark.
- Mr. Thompson noted that the data on the use of this area by fisher had not been available when the prescription was written and treatment conducted.
    - Going forward, it would be important to GPS these clustered areas and overlay them with LiDAR data to better assess the habitat qualities.
    - **ACTION ITEM**: Mr. Tane noted that in Eastfork it was possible to flag clumps, and overlay this data with Mr. Thompson's fisher use data, as well as LiDAR data.
- Ms. Ballard noted the challenge of **how to decide what to treat when there were numerous clumps across the landscape.** Mr. Thompson asked whether it would be possible to keep a list of clumps.
- Ms. Green noted that the downed logs with cavities were beneficial, and that snags with woodpecker activity were visible in the area.
- Ms. Ballard noted that the area had closed canopy, so fire could carry readily but the shading would reduce the intensity. There would be long-term residence time, perhaps two months, so there could be some torching, and potential need for reburning. There were lots of ladder fuels, and the adjacent skid line would actually serve as a fireline.

6. Dinkey South: Uphill Hike to Snag from McKinley Grove Road, 10S13L

Ms. Green noted the challenge of **identifying trees like this which did not have noticeable habitat characteristics at eye level**, and would require looking up all the time.

- Mr. Schroer noted that there were old scars that showed decadence, and also a leaning tree. There were also multiple layers and upper cavities.
- Ms. Britting noted the area would not be marked, and that basal area was not sufficient.
- Mr. Hanson noted that the structure consisted of 3 mature trees in a row, with two leaning against the third, and a platform, and that the basal area was higher than expected even though not immediately obvious.
- Mr. Tane suggested the tree would have been marked for wildlife, although a clump was not present.
- Ms. Green reiterated that the relative value of a tree was important.

- **For the purpose of refining the marking guidelines and improving the capacity of crews to identify structures,** Mr. Thompson suggested that a mark should subsequently be cross-checked with fisher data (so a fisher survey conducted beforehand). The marking crew could then be given access to the rest and den site information. A few iterations would likely improve the calibration of both the guidelines and crews.
    - **ACTION ITEM:** Mr. Thompson suggested this was possible to do in the Soaproot project.
    - Ms. Britting reiterated that the narrative was just as important as the crews. She suggested that a first step would be for the technical group to review the guidelines and suggested whether they were appropriate for a site, and then revise the narrative accordingly, after which the crews could apply the tool. After a first unit, the crew could then practice on a second unit, after which the group could review the mark. The point was to make sure all parts of the process were vetted.
- **Mr. Smith noted that per the GTR 220, if the area was mixed fir, these trees would grow fast, and the challenge would be to manage this in a way that allowed for increased pine. He suggested two steps:** (1) identify the existing openings and evaluate the potential to expand them, from ¼ or ½ to ¾ or 1 acre, and plant pine. (2) evaluate ladder fuels and consider using a Timber Stand Improvement (TSI) crew or masticator to remove the fir.
    - Mr. Hanson commented that fisher conservation doesn't necessarily equate with more pine, and that pine pockets could be created through mixed intensity fire without pre-thinning. **Mr. Hanson suggested that part of the Bald Mountain project include treatment without pre-thinning, and that fisher response and pine regeneration then be evaluated under these more natural conditions for the purpose of adaptive management.**
- Ms. Britting suggested the key question as how to retain the understory in structurally beneficial ways. If the area was non-commercial, regeneration patches were an option.
    - Mr. Smith suggested this was possible. Rather than thinning from below, he would work more with the existing group structure, aiming to create patches that extended to the lower layers, as well as open the lower area for the purpose of benefitting clumps.
- Mr. Schroer noted that cover vegetation should be considered in the short and long-term. This could be planned in coordination with a clump to provide a certain amount of understory trees on a given side.
- Mr. Thomas expressed concern about the loss of sugar pine in the area, and supported the opportunity to create expanded openings. **When planning openings, it would be important to consider both the size of individual openings and their distribution across an area.**

7. Dinkey South: Downhill from McKinley Grove Road, 10S13L

Mr. Smith suggested the area was moderate quality because it had 240 basal area, but also needed a large snag and live trees with resting area.

- Ms. Britting noted that "suitable large rest structures" were acceptable. The area had higher density portions as well as more open areas, and more understory. She asked whether the pattern would be acceptable for fuels, and Ms. Ballard noted that pile burns would not clean the area too much.

- **Ms. Britting emphasized the importance of finding a balance between adequate understory for cover and meeting fuels objectives.** Ms. Ballard suggested that with ¼ to ½ acre areas of shrubs/understory that it would still be likely to achieve fuels objectives.

- Mr. Thompson noted the favorable vertical heterogeneity with lateral separation, as well as the small scale heterogeneity.

8. Dinkey South: Downhill from McKinley Grove Road, Nearby

- Mr. Schroer raised the idea of **including shrub patches as a percentage of treatments**. He noted that excavators could pile material while a dozer used a blade.
- Mr. Schroer asked **whether ladder fuels left for habitat next to big trees posed a hazard**.
  - Ms. Green noted that the risk of losing an old structure because of ladder fuels and preserving cover was a tradeoff that needed site-specific assessments.
  - Mr. Smith noted that the area was downslope and north facing so there was greater risk.
  - Mr. Hanson suggested that a large snag created by fire would be beneficial, and that there was less heterogeneity downslope.
  - Ms. Britting suggested there was insufficient understory on the far side.
  - Mr. Thompson noted that there were few routes and the tree was exposed, with a lack of density under the tree.
  - Ms. Ballard noted that the expected shrub response was not significant. Pine regeneration was likely around the clump but not within.

9. Dinkey South: Downhill from McKinley Grove Road, 10S13L – Area with Lots of Cleared Ground

- Mr. Hanson noted a lack of understory, snags, and downed logs. He recommended leaving more understory and active snag creation.
- Mr. Schroer suggested that there was a small amount of shrubs and he would have expected more. **Photosampling would be useful to improve treatment records.**
- Ms. Britting noted it was not possible to know what had been obliterated.
- Mr. Smith suggested that the canopy cover had not changed, and noted the lack of shrub remnants that would come with clearing.
- **Mr. Thompson noted the importance of acknowledging works in progress,** and felt that both conditions above 20' looked positive, while the understory could be promoted below.
- Mr. Tane noted that he believed the number of snags would increase over time.
- Mr. Bagley noted that white fire likes shade, and it would likely continue to populate the area given the seedbank. He noted that after mastication logs could be scattered.
- Mr. Schroer suggested that larger fir could be retained within the stand.
- Mr. Thompson suggested that if the treatment were for a patch that would be of less concern, but as a matrix it was not preferred.

    - Mr. Bagley noted that SCE did not treat large portions of its land with any given treatment. Also, designs were planned to have a 20-year return period before needing treatment again.
- **Mr. Thompson noted that during a wet burn the fine fuel content of a debris pile could be burned – this was termed "gutting" a pile, and could preserve the structure and associated prey and habitat.** Hundred or thousand-hour fuels should be left, creating crawl spaces. Contractors would not see the value in this and typically wanted a hot pile burn.
    - Ms. Ballard noted that the question was how to flag such a pile, so that it wouldn't be fully burned. During the winter, snows might cover flags so another indicator would be needed.
- Ms. Britting noted that the piles had shrubs, so perhaps less could be removed.
    - Mr. Smith noted that 10-15% had been chosen as a historic average, and the percentage could be raised.
- Mr. Larry Duysen noted that the shrub percentage could be designated in the contract. A dozer covers every square foot and creates intense ground disturbance, while an excavator has a large radius of work and can turn from a stationary position, reducing disturbance. A feller-buncher also goes all the way up to trees. Soil compaction is also a consideration.
    - Ms. Britting suggested that if there were less than 10%, for example, all groundcover could be retained, while if there were, action could be taken. The practical question remained whether the patch size and groundcover that was beneficial for fisher would also be suitable for fuels.
    - **Mr. Thompson added that in leaving groundcover it would be important to consider where it is left – around particular structures or emphasis areas, for example. Understory and groundcover near clumps that provided forage and rest cover would be more useful than in open landscapes.**
    - Mr. Hanson suggested prioritizing areas near wildlife trees.
    - Ms. Ballard noted that the desired percentage depending on the elevation, ecology, and aspect of a unit or project. Soaproot, for example, tended to be dominated by brush that responds quickly to disturbance.
    - Mr. Thomas noted the additional consideration of visual quality – brush piles were not supposed to be seen from the road.

10. Dinkey South: Downhill from McKinley Grove Road, 10S13L – Final Stop Overlooking Downed Log

- Mr. Thompson suggested that materials that create visual breaks, so that one cannot see so far on the ground, are better habitat. If there are large downed logs, the groundcover is easier to retain than to grow brush later. Retaining 3-4 large downed logs seems like a low number, although would at least buy time while other materials develop. If possible, clumps near downed logs should be kept. Shaded downed logs are better than hot and dry logs because there is more potential for resting and for small lizards and mammals.
- Ms. Green noted **the value of enhancing shrubs in the clump to increase travel cover and prey possibilities**.
- Ms. Britting recommended that an **effort be made to better describe the structure and material that is desired adjacent to clumps**.

    - Mr. Thompson suggested that trees could even be dropped to lean.
    - Ms. Green differentiated between leaving groundcover that was evenly distributed across the landscape, versus in a corridor or as supporting habitat near downed log or clump.
- **Regarding groundcover and soil compaction**, Mr. Ray Porter suggested that the ID team could work to better describe acceptable ground disturbance in different areas, make recommendations on how to minimize this, and how to ensure that streamside management zones were protected, perhaps through avoiding entry. Skid trails also created tradeoffs between distributed and focused disturbance, where there was great disturbance along the line but reduced disturbance to surrounding areas.
    - Mr. Thomas supported the suggestion of specialist input regarding runoff and compaction. He also suggested it would be helpful to develop a system for delineating and leaving piles.
    - **Ms. Britting suggested that Bald Mountain should include an area that designates "piles for habitat enhancement," where are there are good opportunities for the operators to test the approach to enhancement, perhaps 100 acres**.
    - Ms. Ballard noted that flagging every pile would not be feasible. She suggested instead clarifying that 100 and 1000-hour fuels were desired, while fines and smaller fuels were not.
    - **Mr. Porter suggested that this approach could also be tested during Eastfork implementation, which was coming up**. He supported the idea of developing materials to support those working in the field, as experts could not cover all the ground.
    - Mr. Duysen suggested that appropriate burning would be preferable to carefully separating piles from the start, which would require covering the same ground twice, thus increasing soil impacts and also significantly increasing the cost of the work.

11. Attendees

1. Justin Augustine
2. Rich Bagley
3. Carolyn Ballard, SNF
4. Keith Ballard, SNF
5. Sue Britting
6. Dirk Charley, SNF
7. Kent Duysen
8. Larry Duysen
9. Pam Flick
10. Dorian Fougères, CCP
11. Rebecca Green, USFS
12. Chad Hanson
13. Peter Nelson
14. Ray Porter, SNF
15. Greg Schroer, SNF
16. Mark Smith
17. John Stewart
18. Zach Tane, SNF
19. Craig Thomas
20. Craig Thompson, USFS
21. Stan Van Velsor
22. Tiffany Wade, SNF